

In the Claims:

The following is a list of claims currently pending in this application and their current status. This listing of claims replaces all prior versions and listings in this application.

1. (Original) A method of compensating for output error in a sigma delta circuit, 2 comprising:
 - receiving an input signal;
 - adding a first error voltage value, which is derived from an output 5 signal, to the input signal;
 - subtracting a second error value, which is derived from the adding of a first error voltage value, to the input signal from the input signal; and
 - outputting an output signal result from the sigma delta circuit.
2. (Currently amended) A sigma delta digital circuit configured to compensate for output error, comprising:
 - an input for receiving an input signal;
 - an output configured to output [a] an output signal;
 - a summation component configured to add a first error voltage value, which is derived from an output signal, to an incoming input signal; and
 - a subtraction component configured to subtract a second error voltage value, where the second error voltage value is derived from the adding of a first error voltage value to an incoming input signal.
3. (Original) A sigma delta digital circuit according to Claim 2, further comprising a filter configured to filter an input signal according to a filter function, wherein the filter generates noise that distorts the filtered input signal, wherein the distortion results in the first error value.
4. (Original) A sigma delta digital circuit according to Claim 2, further comprising a filter configured to filter an input signal according to a filter function, wherein the filter generates noise that distorts the filtered input signal, wherein the distortion results in the second error value.
5. (New) A circuit producing low-noise output from a sigma delta modulator (SDM), the circuit including:

an input,
a first connection point electrically coupled to the input,
a second connection point electrically coupled to the first connection point,
a third connection point electrically coupled to the second connection point,
an SDM electrically coupled to the third connection point,
an SDM output electrically coupled to the SDM,
a positive feedback loop from the third connection point to the first connection point, adding the positive feedback signal to the input signal; and
a negative feedback loop from the SDM output, after quantization, to the second connection point, subtracting the negative feedback signal from the signal at the second connection point.

6. (New) The circuit of claim 5, further including a filter having a gain of less than unity positioned in the positive feedback loop, between the first and third connection points.

7. (New) A method of producing low-noise output from a sigma delta modulator (SDM) loop, including:

providing positive feedback to the input from a point within the SDM loop, the point taken between a differencing element that combines negative feedback from a quantizer with the input and a filter element.

8. (New) The method of claim 7, further including filtering the positive feedback before combining it with the input, with a filtering gain of less than unity.

9. (New) The method of claim 8, wherein the filtering gain is greater than or equal to 0.99.

10. (New) The method of claim 8, wherein the filtering gain is greater than or equal to 0.999.

11. (New) The method of claim 8, wherein the filtering is implemented using a filter having a single real pole.